

FILE 'REGISTRY' ENTERED AT 11:05:25 ON 23 SEP 2003

L4 1 S TANTALUM (W) PENTAMETHOXIDE  
L5 1 S TANTALUM (W) PENTAETHOXIDE

FILE 'USPAT2' ENTERED AT 11:06:25 ON 23 SEP 2003

L6 0 S 865-35-0.RN.  
L7 1 S L4  
L8 27 S L5  
L9 22 S L8 AND CAPACITOR ✓

FILE 'INSPEC, CAPLUS' ENTERED AT 11:11:20 ON 23 SEP 2003

=> s l4 and capacitor  
L10 5 L4 AND CAPACITOR

=> d 1-5

L10 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
AN 2000:605662 CAPLUS

DN 133:186514

TI Method and apparatus for preparing integrated circuit thin films by  
chemical vapor deposition

IN Pazde, Araujo Carlos A.; McMillan, Larry D.; Solayappan, Narayan; Baco  
n,

Jeffrey W.

PA Symetrix Corporation, USA

SO U.S., 24 pp., Cont.-in-part of U.S. Ser. No. 653,079, abandoned.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 67

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 0110531	A	20000829	US 1997-892485	19970714
	US 5138520	A	19920811	US 1991-690940	19910617
	JP 11131247	A2	19990518	JP 1998-236014	19920221
	JP 3238663	B2	20011217		
	US 5456945	A	19951010	US 1992-993380	19921218
	US 5648114	A	19970715	US 1993-90767	19930712
	US 5519234	A	19960521	US 1993-154927	19931118
	US 5601869	A	19970211	US 1995-478399	19950607
	US 5688565	A	19971118	US 1995-480477	19950607
	US 6080592	A	20000627	US 1995-477331	19950607
	US 5997642	A	19991207	US 1997-971799	19971117
	US 6116184	A	20000912	US 1997-971890	19971117
	WO 9902756	A1	19990121	WO 1998-US14531	19980714
	W:	CN, IL, JP, KR, US, US			
	RW:	AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL			

PT, SE

EP 998594 A1 20000510 EP 1998-934515 19980714

R: DE, FR, GB, IT, NL

JP 2001509641 T2 20010724 JP 2000-502245 19980714

US 6174564 B1 20010116 US 1999-258486 19990226

US 6511718 B1 20030128 US 1999-446226 19991217

PRAI	US 6454964	B1	20020924	US 2000-718847	20001122
	US 1991-660428	B2	19910225		
	US 1991-690940	A2	19910617		
	US 1991-807439	B2	19911213		
	US 1992-965190	B3	19921023		
	US 1992-993380	A2	19921218		
	US 1993-90767	A2	19930712		
	US 1993-154927	A2	19931118		
	US 1995-480477	A2	19950607		
	US 1996-653079	B2	19960521		
	US 1988-290468	A2	19881227		
	WO 1989-US5882	W	19891227		
	JP 1992-511586	A3	19920221		
	US 1992-981133	A2	19921124		
	US 1993-134493	B1	19931019		
	US 1994-291366	A3	19940816		
	US 1997-892485	A2	19970714		
	US 1997-971799	A2	19971117		
	WO 1998-US14531	W	19980714		
	US 1999-258486	A3	19990226		

RE.CNT 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1994:122696 CAPLUS  
 DN 120:122696  
 TI Manufacture of semiconductor device having tantalum oxide-based  
     \*\*\*capacitor\*\*\* with reduced leak current  
 IN Kamyama, Satoshi  
 PA Nippon Electric Co, Japan  
 SO Jpn. Kokai Tokkyo Koho, 4 pp.  
     CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05243524	A2	19930921	JP 1992-42646	19920228
PRAI JP 1992-42646		19920228		

L10 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1994:92569 CAPLUS  
 DN 120:92569  
 X TI Fabrication of tantalum oxide thin film on silicon substrate by photo-  
 CVD  
     method  
 AU Han, B. M.; Kim, S. Y.; Kim, K. S.  
 CS Dep. Phys., Korea Adv. Inst. Sci. Technol., S. Korea  
 SO Han'guk Pyomyon Konghak Hoechi (1992), 25(3), 126-32  
     CODEN: HPKHEL; ISSN: 1225-8024  
 DT Journal  
 LA Korean

L10 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
 AN 1993:31189 CAPLUS  
 DN 118:31189

TI Electric characteristics of tantalum pentoxide films  
AU Chang, Chung Geun; Song, Jae Young; Lee, Ki Sun; Kang, Jun Gill; Kim,  
Soo

Yong

CS Coll. Natl. Sci., Chungnam Natl Univ., S. Korea  
SO Chungnam Kwahak Yonguchi (1990), 17(2), 92-7

CODEN: CJOSDA

DT Journal

LA Korean

L10 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1986:416282 CAPLUS

DN 105:16282

TI Photo-CVD of tantalum oxide film from pentamethoxy tantalum for VLSI  
dynamic memories

AU Yamagishi, Koji; Tarui, Yasuo

CS Dep. Electr. Eng., Tokyo Univ. Agric. Technol., Tokyo, 184, Japan

SO Japanese Journal of Applied Physics, Part 2: Letters (1986), 25(4),  
L306-L308

CODEN: JAPLD8

DT Journal

LA English

=> d 1-4 kwic

L10 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN

IT Annealing

Atomizing (spraying)

\*\*\*Capacitor\*\*\* electrodes

Electric contacts

Ferroelectric films

Integrated circuits

Perovskite-type crystals

Pipes and Tubes

Rapid thermal annealing

Semiconductor device fabrication

Semiconductor superlattices

Superlattices

Vapor deposition apparatus

(method and app. for prepg. integrated circuit thin films by chem.  
vapor deposition)

IT 93-91-4D, Benzoylacetone, metal complexes 123-54-6D, Acetylacetone,  
metal complexes 546-68-9 593-91-9, Trimethylbismuth 603-33-8,  
Triphenylbismuth 617-77-6, Triethylbismuth \*\*\*865-35-0\*\*\*, Tanta

lum pentamethoxide 3236-82-6, Niobium pentaethoxide 6074-84-6, Tantalum

m pentaethoxide 7721-01-9, Tantalum pentachloride 10026-12-7, Niobiu

m pentachloride 10433-06-4, Antimony triethoxide 15049-67-9, Bismuth  
triisopropoxide 17594-47-7, Barium dipivaloylmethanate 18865-74-2  
24952-65-6 36830-74-7, Strontium bis(dipivaloylmethanate) 38625-54

-6, Tris(dipivaloylmethanate)ruthenium 38874-18-9 90520-74-4, Bismuth  
tris(tert-butoxide) 121151-11-9 124687-44-1, Bismuth

4 tris(tert-pentoxide) 142617-53-6, Bismuth tris(dipivaloylmethanate)  
144665-26-9, Diisopropoxybis(dipivaloylmethanato)titanium 147050-80-  
150178-00-0, Lead dipivaloylmethanate 170514-07-5  
RL: NUU (Other use, unclassified); USES (Uses)  
(precursor; method and app. for prepg. integrated circuit thin film  
s by chem. vapor deposition)

L10 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
TI Manufacture of semiconductor device having tantalum oxide-based  
    \*\*\*capacitor\*\*\* with reduced leak current  
ST semiconductor device    \*\*\*capacitor\*\*\* leak current; tantalum oxide  
ion dielec film    \*\*\*capacitor\*\*\* ; polycrystd silicon electrode nitridat  
annealing; titanium nitride electrode    \*\*\*capacitor\*\*\* semiconductor  
r; tungsten electrode    \*\*\*capacitor\*\*\* semiconductor device; memory de  
vice  
    \*\*\*capacitor\*\*\*  
IT Vapor deposition processes  
    (for tantalum oxide    \*\*\*capacitor\*\*\* , for semiconductor device)  
IT Annealing  
    (of polycryst. silicon, for nitridation, for    \*\*\*capacitor\*\*\* , f  
or  
    semiconductor device)  
IT Electric insulators and Dielectrics  
    (tantalum oxide film, for    \*\*\*capacitor\*\*\* with reduced leak  
current, for semiconductor device)  
IT Memory devices  
    (tantalum oxide-based    \*\*\*capacitor\*\*\* with reduced leak current  
for)  
IT Electric    \*\*\*capacitors\*\*\*  
    (tantalum oxide-based, with reduced leak current, in semiconductor  
device manuf.)  
IT 7664-41-7, Ammonia, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
    (annealing of silicon in, for nitridation, for    \*\*\*capacitor\*\*\* ,  
for  
    semiconductor device)  
IT    \*\*\*865-35-0\*\*\* , Tantalum pentamethoxide 6074-84-6, Tantalum  
pentaethoxide  
RL: TEM (Technical or engineered material use); USES (Uses)  
    (chem. vapor deposition of tantalum oxide from, for    \*\*\*capacitor\*  
\*\*  
    , for semiconductor device)  
IT 1314-61-0, Tantalum oxide  
RL: TEM (Technical or engineered material use); USES (Uses)  
    (dielec. film, for    \*\*\*capacitor\*\*\* with reduced leak current, f  
or  
    semiconductor device)  
IT 7440-33-7, Tungsten, uses 25583-20-4, Titanium nitride  
RL: TEM (Technical or engineered material use); USES (Uses)  
    (electrode, for tantalum oxide-based    \*\*\*capacitor\*\*\* , for  
semiconductor device)  
IT 12033-89-5, Silicon nitride, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(polycryst. silicon coated by, for tantalum oxide dielec. film, for  
\*\*\*capacitor\*\*\* , for semiconductor device)

IT 7440-21-3, Silicon, uses  
RL: PRP (Properties); TEM (Technical or engineered material use); USES  
(Uses)  
(polycryst., electrode, nitridation of, for tantalum oxide dielec.  
film, for \*\*\*capacitor\*\*\* , for semiconductor device)

L10 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
ST amorphous tantalum oxide photo CVD \*\*\*capacitor\*\*\*  
IT \*\*\*865-35-0\*\*\* , Tantalum pentamethoxide 1314-61-0D, Tantalum oxi  
de  
(Ta2O5), nonstoichiometric 7440-21-3, Silicon, miscellaneous  
RL: DEV (Device component use); USES (Uses)  
(photo CVD of tantalum oxide films on silicon as insulators and mem  
ory  
devices)

L10 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
IT Electric \*\*\*capacitors\*\*\* .  
(tantalum pentoxide-contg., elec. behavior of)  
IT \*\*\*865-35-0\*\*\*  
RL: USES (Uses)  
(oxygen-assisted pyrolysis of, in tantalum pentoxide prepn.)

=> d 5 kwic

L10 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2003 ACS on STN  
AB Tantalum oxide film with large dielec. const. from Ta(OMe)5 for were g  
rown  
at a low temp. by photo-CVD for \*\*\*capacitors\*\*\* in VLSI. The  
photo-CVD film obtained in this study has good step coverage, high die  
lec.  
const. (20-24), and low leakage. . .  
ST tantalum oxide dielec film \*\*\*capacitor\*\*\*  
IT Electric \*\*\*capacitors\*\*\*  
(in VLSI memories, tantalum oxide for)  
IT \*\*\*865-35-0\*\*\*  
RL: USES (Uses)  
(deposition of tantalum oxide film from, for VLSI dynamic memories)

=> d his

(FILE 'HOME' ENTERED AT 11:04:23 ON 23 SEP 2003)

FILE 'USPAT2' ENTERED AT 11:04:45 ON 23 SEP 2003

L1 0 S TANTALUM (W) PENTAMETHOXIDE  
L2 0 S TANTALUM (W) METHOXIDE  
L3 0 S TANTALUMMETHOXIDE

FILE 'REGISTRY' ENTERED AT 11:05:25 ON 23 SEP 2003

L4 1 S TANTALUM (W) PENTAMETHOXIDE  
L5 1 S TANTALUM (W) PENTAETHOXIDE

FILE 'USPAT2' ENTERED AT 11:06:25 ON 23 SEP 2003

L6 0 S 865-35-0.RN.  
L7 1 S L4  
L8 27 S L5  
L9 22 S L8 AND CAPACITOR

FILE 'INSPEC, CAPLUS' ENTERED AT 11:11:20 ON 23 SEP 2003

L10 5 S L4 AND CAPACITOR

=> s 15 and capacitor  
L11 117 L5 AND CAPACITOR

=> d his full

(FILE 'HOME' ENTERED AT 11:04:23 ON 23 SEP 2003)

FILE 'USPAT2' ENTERED AT 11:04:45 ON 23 SEP 2003

L1 0 SEA ABB=ON PLU=ON TANTALUM (W) PENTAMETHOXIDE  
L2 0 SEA ABB=ON PLU=ON TANTALUM (W) METHOXIDE  
L3 0 SEA ABB=ON PLU=ON TANTALUMMETHOXIDE

FILE 'REGISTRY' ENTERED AT 11:05:25 ON 23 SEP 2003

L4 1 SEA ABB=ON PLU=ON TANTALUM (W) PENTAMETHOXIDE  
D 1  
L5 1 SEA ABB=ON PLU=ON TANTALUM (W) PENTAETHOXIDE  
D 1

FILE 'USPAT2' ENTERED AT 11:06:25 ON 23 SEP 2003

L6 0 SEA ABB=ON PLU=ON 865-35-0.RN.  
L7 1 SEA ABB=ON PLU=ON L4  
L8 27 SEA ABB=ON PLU=ON L5  
D L7  
L9 22 SEA ABB=ON PLU=ON L8 AND CAPACITOR  
D L9 1-22  
D 1-22 KWIC

FILE 'INSPEC, CAPLUS' ENTERED AT 11:11:20 ON 23 SEP 2003

L10 5 SEA ABB=ON PLU=ON L4 AND CAPACITOR  
D 1-5  
D 1-4 KWIC  
D 5 KWIC  
L11 117 SEA ABB=ON PLU=ON L5 AND CAPACITOR

FILE HOME

FILE USPAT2

FILE COVERS 2001 TO PUBLICATION DATE: 23 Sep 2003 (20030923/PD)

FILE LAST UPDATED: 23 Sep 2003 (20030923/ED)

HIGHEST GRANTED PATENT NUMBER: US2003139401

HIGHEST APPLICATION PUBLICATION NUMBER: US2003176950

CA INDEXING IS CURRENT THROUGH 23 Sep 2003 (20030923/UPCA)

ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 23 Sep 2003 (20030923/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2003

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2003

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USPATFULL and USPAT2 can be accessed and searched together through the new cluster USPATALL. Type FILE USPATALL to enter this cluster.

Use USPATALL when searching terms such as patent assignees, classifications, or claims, that may potentially change from the earliest to the latest publication.

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 22 SEP 2003 HIGHEST RN 591204-55-6

DICTIONARY FILE UPDATES: 22 SEP 2003 HIGHEST RN 591204-55-6

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:

<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

FILE INSPEC

FILE LAST UPDATED: 22 SEP 2003 <20030922/UP>

FILE COVERS 1969 TO DATE.

<<< SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN  
THE BASIC INDEX >>>

FILE CAPLUS

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FILE LAST UPDATED: 22 Sep 2003 (20030922/ED)

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